CHAPTER 3

AVIATION WEATHER CODES

INTRODUCTION

In this chapter we will discuss two meteorological codes routinely encountered by Aerographers, particularly at shore-based commands. The first code we will discuss is the Terminal Aerodrome Forecast (TAF) code. You must be able recognize the various elements that make up this code because you may be tasked with preparing a TAF for dissemination. The second code we will discuss is the Pilot Weather Report (PIREP) code. This code details in-flight weather conditions reported directly from aircraft via pilot-to-metro service (PMSV) radio. The meteorological information received must then be encoded for electronic transmission to data collection centers.

TERMINAL AERODROME FORECAST (TAF) CODE

LEARNING OBJECTIVES: Identify the primary reference publication concerning the Terminal Aerodrome Forecast (TAF) code. Identify when TAFs should be transmitted. Describe the format, elements, and abbreviations used in the TAF code. Explain the requirements for amending TAFs.

The Terminal Aerodrome Forecast (TAF) code provides information about the expected weather conditions that will occur at your airfield or station control zone. Only certified forecasters are authorized to write TAFs. However, as the observer, you will often be tasked to prepare the latest TAF for transmission locally and over longline. The TAF code is presented here so you will be able to recognize the various elements of the code and be able to spot encoding errors if they occur.

TAF FORMAT

The WMO Meteorological code FM51-X is used internationally as the standard TAF format. NAVMETOCCOMINST 3143.1 is the governing instruction for using the TAF code for all U.S. Navy and Marine Corps weather activities. It is identical to the WMO TAF code with only minor differences.

TAFs are transmitted at 6-hour intervals at 0300, 0900, 1500, and 2100 UTC, and have valid periods of 24 hours. The complete TAF format is shown in table 3-1 and is explained in the following sections.

The symbolic indicator **CCCC** is the ICAO location identifier followed by "TAF," and then the valid forecast period day and time $(Y_1Y_1G_1G_1G_2G_2)$. Example: KNGU TAF 230909 is the aerodrome forecast for Norfolk, Virginia, valid for 24 hours from the 23rd 0900 UTC to the 24th 0900 UTC.

Table 3-1.—TAF Code Format and Sample

CCCC TAF (AMD or COR or RTD) $Y_1Y_1G_1G_1G_2G_2$ dddffGf$_m$f$_m$KT VVVV

w'w' $N_sN_sN_sh_sh_sh_s$ or SKC or VVh$_s$h$_s$h$_s$ (WSH$_{ws}$h$_{ws}$h$_{ws}$/dddffKT or

WSCONDS) (6I$_c$h$_i$h$_i$h$_i$t$_L$) (5Bh$_b$h$_b$h$_b$t$_L$) QNHP$_1$P$_1$P$_1$INS (Remarks)

(TTTTT GGG$_e$G$_e$/TTGGGG) (TT$_F$T$_F$/G$_F$G$_F$Z) AMD or COR GGGG)

 KNGU TAF 210909 23012KT 4800 -SN BKN005 OVC012 620107

QNH3002INS

TEMPO 0914 0800 +SNRA -BLSN VV002

BECMG 0506 33018KT 510804 QNH3015INS T01/15Z

All amended forecasts will use the time the forecast is amended as the beginning time, and the standard time of the forecast period as the ending time. For example, if the 281515 TAF is amended at 281700, it would be encoded 281715. The abbreviation "AMD" is used to indicate an amended TAF. The abbreviation "RTD" indicates a routine delay, and "COR" indicates a corrected TAF. Specific meteorological elements of the TAF code are as follows:

1. Element $dddffGf_mf_mKT$ is the surface wind direction to the nearest 10 degrees, and the wind speed in knots. Gusts are also included when applicable. The contraction "VRB" may be used for direction when the average wind speed is 6 knots or less. Calm winds are encoded as "00000KT."

2. Element $VVVV$ is the prevailing visibility in meters, rounded down to the nearest reportable value. Reportable values are identical with those in NAV-METOCCOMINST 3141.2, *Surface METAR Observations User's Manual.* Weather and/or obstructions to vision must be included whenever the prevailing visibility is forecast to be 9000 meters (6 SM) or less.

3. Element $w'w'$ includes the forecast weather and obstructions to vision using the standard abbreviations as outlined in NAVMETOCCOMINST 3141.2 and NAVMETOCCOMINST 3144.1, *United States Navy Manual for Ship's Surface Weather Observations.*

4. Element $N_sN_sN_sh_sh_sh_s$ is the sky cover group using standard abbreviations (i.e., SCT, FEW, etc.). Heights are reported in hundreds of feet AGL in accordance with NAVMETOCCOMINST 3141.2 and NAVMETOCCOMINST 3144.1. This group is reported as often as necessary to indicate all forecast sky cover layers up to the forecast overcast (8/8) layer. The summation principle used in the METAR code also applies to the TAF code. Groups are reported in ascending order. Clear skies are reported as "SKC." Types of clouds are not encoded with the exception of cumulonimbus clouds. which are always reported as a separate group using the abbreviation CB. For example, 3/8 cumulonimbus clouds at 2,500 feet would be encoded as SCT025CB.

Partial obscurations are considered as the first layer in the sky cover group (i.e., fog forecast to cover 2/8 of the station would be encoded as SCT000). Total obscurations are reported using the $VVh_sh_sh_s$ group as per NAVMETOCCOMINST 3141.2 and NAVMETOCCOMINST 3144.1.

5. The element $WSh_{ws}h_{ws}h_{ws}/dddffKT$ or $WSCONDS$ is the non-convective, low-level wind shear (LLWS) group. This group is used only to forecast wind shear not associated with convective activity from the surface to 2,000 feet. The abbreviation WS is the LLWS indicator, and $h_{ws}h_{ws}h_{ws}$ is the forecast height of the wind shear in hundreds of feet AGL. The contraction WSCONDS indicates that wind shear conditions are present but complete information cannot be reliably forecast.

6. The element $6I_ch_ih_ih_it_L$ is the icing group (not associated with thunderstorms). The number 6 is the icing indicator and I_c represents the type of icing, as encoded from table 3-2. The $h_ih_ih_i$ is the icing layer base in hundreds of feet AGL. The t_L represents the thickness of the icing layer in thousands of feet, as encoded from table 3-3. Example: 650203 indicates moderate icing in cloud from 2,000 to 5,000 feet.

7. Element $5Bh_bh_bh_bt_L$ is the turbulence group (not associated with thunderstorms). The number 5 is the turbulence indicator and the letter "B" is the turbulence type and intensity encoded from table 3-4. Extreme turbulence is encoded with an "X." The $h_bh_bh_b$ is the forecast height of the turbulence in hundreds of feet AGL. The t_L is the thickness of the turbulence layer in thousands of feet AGL, as encoded from table 3-3. Example: 561205 indicates occasional severe turbulence in clear air from 12,000 to 17,000 feet.

Table 3-2.—Icing Type (I_c)

I_c =	Type of forecast ice accretion on external parts of aircraft
Code	Figure
0	No Icing
1	Light Icing
2	Light Icing in Cloud
3	Light Icing in Precipitation
4	Moderate Icing
5	Moderate Icing in Cloud
6	Moderate Icing in Precipitation
7	Severe Icing
8	Severe Icing in Cloud
9	Severe Icing in Precipitation

Table 3-3.—Thickness of Icing and Turbulence Layers (t_L)

Code Figure	Thickness
1	1,000 feet
2	2,000 feet
3	3,000 feet
4	4,000 feet
5	5,000 feet
6	6,000 feet
7	7,000 feet
8	8,000 feet
9	9,000 feet

Table 3-4.—Turbulence Type and Intensity (B)

B = Turbulence	
Code	Figure
0	None
1	Light Turbulence
2	Moderate Turbulence in clear air, occasional
3	Moderate Turbulence in clear air, frequent
4	Moderate Turbulence in cloud, occasional
5	Moderate Turbulence in cloud, frequent
6	Severe Turbulence in clear air, occasional
7	Severe Turbulence in clear air, frequent
8	Severe Turbulence in cloud, occasional
9	Severe Turbulence in cloud, frequent
X	Extreme Turbulence

8. Element $QNHP_IP_IP_IP_IINS$ is the lowest altimeter setting in inches expected during the forecast period.

9. The elements $TTTTT\ GGG_eG_e$ or $TTGGGG$ are change groups used to indicate changes in some or all of the elements forecast to occur at some intermediate time during the 24-hour forecast period. Several change groups may be used to properly identify forecasted conditions as explained below.

The contraction "FMGGGG" indicates the beginning of a change period in the forecast. All forecast conditions preceding this group are superseded by the conditions forecast in this group. For example, if the TAF period is 1515 and a change is forecast at 1930 UTC, the entry "FM1930" is encoded. The elements entered following this contraction are in effect from 1930 UTC until the end of the forecast period, 1500 UTC.

The contraction "BECMG" is used to indicate a change to forecast conditions 'expected to occur at regular or irregular periods at an unspecified time within the time period identified. The duration of the change should not normally exceed 4 hours.

The contraction "TEMPO" is used to indicate frequent or infrequent temporary fluctuations to the forecasted meteorological conditions that are expected to last less than 1 hour in each instance, <u>and</u> an aggregate total of less than half the time of the forecast period indicated.

10. Element TT_FT_F/G_FG_FZ is the temperature group. This is an optional group. The letter "T" is the temperature indicator and T_FT_F is the forecast maximum or minimum temperature in whole degrees Celsius, depending on the time of day. The G_FG_F is the time at which the maximum or minimum temperature is expected to occur.

TAF AMENDMENTS

Occasionally a TAF will need to be amended. Established amendment criteria are based on ceiling and visibility requirements outlined in OPNAVINST 3710.7, *NATOPS General Flight and Operating Instructions,* and other safety of flight considerations. Part of your job as an observer is to keep the forecaster aware of any changes to the meteorological situation

that may require an amended TAF. Table 3-5 is a summary of minimum amendment criteria. More stringent amendment criteria may be established locally. The actual time that the amendment is completed for transmission is the last element encoded. For example, an amendment completed at 2130 UTC would have as the last element "AMD 2130."

Not all, but most aviation weather offices are equipped with a PMSV voice radio. PMSV radio is used to pass updated weather observations and forecasts to aircraft in flight and to receive pilot-reported, flight-level, weather observations or pilot reports (PIREPs). The duty observer is normally assigned the responsibility to transmit and receive traffic over the PMSV radio. In the next section, we will discuss the PIREP code.

REVIEW QUESTIONS

Q1. *What instruction governs the use of the Terminal Aerodrome Forecast (TAF) code for Navy and Marine Corps activities?*

Q2. *What are the standard synoptic times for the transmission of TAFs and what is the valid forecast period?*

Q3. *What cloud genus is always reported as a separate group for element $N_sN_sN_sh_sh_sh_s$ of the TAF code?*

Q4. *When is the abbreviation "WSCONDS" used in the TAF code?*

Q5. *How should light icing from 6,000 to 10,000 feet be encoded in a TAF?*

Table 3-5.—Minimum Amendment Criteria

Minimum Amendment Criteria	

Ceilings and Visibilities	• Whenever ceilings and/or visibilities are observed or are later forecast to increase to, equal or exceed, or decrease to less than any of the following:
	
	  Ceiling Visibility
	  3,000 ft 4,800 meters
	  1,000 ft 1,600 meters
	   200 ft 800 meters

Surface Winds	• Wind speed change of 10 knots or more. • Directional change of 30° or more when mean wind or gusts are in excess of 15 knots. • Winds speed or directional change resulting in change of active runway.
Thunderstorm or Tornadic Activity	• Thunderstorm or tornadic activity was not forecast to occur, but later occurs or is expected to occur. • Thunderstorm or tornadic activity was forecast, but later is not expected.
Precipitation	• Precipitation that will affect safety of flight, including runway braking action, is occurring or is forecast to occur, of if forecast, is no longer expected.
Non-Convective, Low-Level Wind Shear	• Low-Level Wind Shear is occurring or forecast to occur, or if forecast, is no longer expected.
QNH	• Whenever the observed altimeter falls below, or is expected to fall below the original forecast.

Q6. What does the element 541003 indicate in a TAF?

Q7. What does the element QNH2991INS indicate in a TAF?

Q8. When is the abbreviation "FM" used in a TAF?

Q9. What change group should be used to indicate a forecast period of rain showers lasting approximately 30 to 45 minutes?

Q10. Relative to surface winds, what are the minimum requirements for amending a TAF?

PILOT WEATHER REPORTS

LEARNING OBJECTIVES: Identify the primary reference publication concerning pilot weather reports (PIREPs). Identify when PIREPs should be submitted by pilots, and when these reports should be forwarded to data collection centers. Describe the format, elements, and abbreviations used in PIREPs.

Pilot-reported weather conditions are used throughout the world to supplement weather conditions observed from the ground. There are several types of reports that are routinely used and should be identified by Navy and Marine Corps observers. As we mentioned in chapter 1, "Upper-air Observations," the AMDAR code (WMO International code 42-XI) is automatically encoded by equipment installed aboard civilian aircraft. These reports contain pressure, temperature, and turbulence reports. The CODAR code (WMO International code FM 41-IV) is manually encoded and transmitted by civilian aircraft pilots to report flight-level temperatures and winds, mostly over ocean areas.

Many countries throughout the world use national code forms to transmit pilot-reported weather conditions. Most of these code forms are not readily disseminated outside the originating country. Within the United States, its territories, and in some countries where U.S. military forces are stationed, a national code form, the PIREP code, is used to encode and transmit significant weather observed by pilots. NAVMETOCCOMINST 3142.1, *Procedures Governing Pilot Weather Reports (PIREPS),* outlines procedures for reporting and encoding PIREPS for ail U.S. Navy and Marine Corps weather activities.

PILOT-REPORTED CRITERIA

In the United States, pilots are encouraged to provide a PIREP whenever they encounter any weather during takeoff, climb to flight level, at flight level, during descent, or on landing that is of meteorological significance to other aircraft or to surface activities. Significant weather is defined as any weather that may affect the flight performance of an aircraft, or is capable of causing injury or damage to personnel or property on the ground. Such phenomena as low-level wind shear (LLWS), thunderstorms and associated thunderstorm phenomena, icing, and turbulence are all considered significant.

Pilots are also encouraged to make negative reports for conditions that are forecast but not observed in flight. For instance, if clear-air turbulence (CAT) or thunderstorms are briefed as occurring in the area and no evidence of the phenomena is observed by a pilot, the pilot should report these conditions as "not occurring."

In particular situations, a briefer may request that a pilot provide information that is not observable from the ground. This may include information on the height of cloud tops, the actual height of cloud bases, the presence of clear levels in a deep layer of assumed solid cloud, or the presence or absence of en route weather over data sparse areas. Pilots are also encouraged to report actual measurements of flight level winds and temperatures.

To provide a means to evaluate the report, pilots are asked to provide certain information with all reports. The minimum information required with any PIREP is (a) the location of the aircraft with respect to a navigational aid, (b) the flight level of the aircraft, (c) the type of aircraft, and (d) at least one meteorological element observed, with time of occurrence. The observer evaluates the reported conditions, and then prepares the report for transmission.

RECORDING AND ENCODING INFORMATION

As previously mentioned, the recording and reporting of PIREP information for Navy and Marine Corps activities is covered in detail in NAVMETOCCOMINST 3142.1. All military weather observers, particularly those stationed within the United States, must be thoroughly familiar with this instruction. In addition, forecasters should monitor all PIREPS received, paying particular attention to the those PIREPS reporting hazardous flight conditions. PIREP information can also be used to supplement in-flight weather briefings as appropriate.

There is a wide variety of conditions that a pilot may report. All reported information is entered as it is received on NMOC 3140/10, the PIREP report form (fig. 3-1).

The upper portion of the form is used to record the reported information. The lower portion of the form is used to encode the PIREP for transmission.

Abbreviated plain language is used in the encoded portion of the message to enter each reported element. The abbreviations permitted for use are found in FAA Order 7340.1, *Contractions.*

The contractions most frequently used are as follows:

ABV	above	MOD	moderate (icing, turbulence, or precipitation)
BKN	broken (sky coverage)	MOV	moving
BLO	below	MX	mixed
CAT	clear air turbulence	N	north
CHOP	chop (turbulence)	NE	northeast
CLR	clear (icing)	NEG	negative (not present)
CTC	contact	NMRS	numerous (area coverage)
DURGC	during climb	NW	northwest
DURGD	during descent	OCNL	occasional (occurrence)
E	east	OVC	overcast (sky coverage)
EXTRM	extreme	RIME	rime icing
FEW	few (area/sky coverage)	RY	runway
FRQ	frequent	S	south
FV	flight level visibility	SCT	scattered (sky coverage)
GND	ground	SE	southeast
HVY	heavy (precipitation)	SEV	severe (icing or turbulence)
ISOL	isolated (area coverage)	SFC	surface
LGT	light (turbulence, icing, or precipitation)	SKC	sky clear
LLWS	low-level wind shear	SW	southwest
LN	line (area coverage)	TRACE	trace (icing)
LTGCA	cloud to air lightning	TS	thunderstorm
LTGCC	cloud to cloud lightning	UNKN	unknown
LTGCG	cloud to ground lightning	W	west
LTGIC	in cloud lightning	−	to or through (layer)

PIREP		1. DATE/TIME PIREP RECEIVED (Z)
2. LOCATION AND/OR EXTENT OF PHENOMENA		3. TIME OBSERVED (Z)
4. PHENOMENA AND ALTITUDE		
		5. AIRCRAFT TYPE
Legend ⇢ = SPACE	* CAT/CHOP OR BLANK	** ONLY IF DIFFERENT FROM FL

(U) UA⇢ /OV		/TM ⇢	/FL ⇢	/TP ⇢
MSG TYPE	LOCATION OF PHENOMENA - 4 letter ID, RADIAL/DISTANCE	TIME (Z)	FLT LVL	TYPE ACFT

/SK⇢	/WX⇢	/TA⇢
SKY CONDITIONS - AMOUNT/BASE/TOPS	FLIGHT VISIBILITY AND/OR WEATHER CONDITIONS	TEMPERATURE °C

/WV⇢	/TB⇢	/IC⇢
WIND (DIR/SPD)	TURBULANCE INTENSITY TYPE* ALTITUDE**	ICING INTENSITY TYPE ALTITUDE**

/RM ⇢
REMARKS   PLAIN TEXT WITH APPROPRIATE ABBREVIATIONS (MOST HAZARDOUS ELEMENT FIRST)

6. EVALUATION FOR DISSEMINATION (MARK "A" OR "B", AND "C" AS APPROPRIATE)			INITIALS	
A. LOCAL DISSEMINATION ☐	B. LONGLINE DISSEMINATION ☐	C. FOR USE IN SURFACE OBSERVATION ☐	FCSTR	OBSRV

NMOC 3140/10 (REV. 7/96)   S/N 0108-LF-113-4700   AGM2f301

Figure 3-1.—NMOC 3140/10, the PIREP report form.

Locations are referenced only with respect to electronic navigation aid stations using VOR (very-high-frequency omnidirectional range), TACAN (tactical air navigation). or VORTAC (a combined facility). These locations are identified using the three-letter national identifier, as listed in FAA Order 7350.6, *Location Identifiers.* The DOD Flight Information Publication (Enroute) and IFR Supplement lists all VHF, TACAN, and VORTAC facilities, along with the facility's four-letter International Civil Aviation Organization (ICAO) identifier. The last three letters of the ICAO identifier are the national identifier. For example: NAS Norfolk (Chambers Field) has a national identifier NGU while the ICAO identifier is KNGU. The K is the Country code for the continental United States.

The Text Element Indicators (TEIs). a slash followed by a two-letter abbreviation, are used in the code to indicate which element is being reported (refer to fig. 3-1). TEIs are included in the coded PIREP before each reported element, but is omitted if that element is not being reported. The type of information that follows each TEI is indicated on the PIREP code form below the space provided. An arrow after the TEI means a space must follow the TEI before the abbreviated information. Table 3-6 gives the different TEIs used, the meaning of each, and examples of entries for each TEI.

The PIREP code is fairly flexible concerning entries for each element. As long as standard abbreviations are used, nearly all significant information may be reported. Reports of elements that are difficult to encode after a TEI, such as low-level wind shear, are entered after the last TEI - "/RM" for remarks. The reported occurrence of a tornado, funnel cloud, or waterspout may be abbreviated in the "/WX" weather TEI. However, when any of these three elements occur, they must be spelled out in the "/RM" remarks TEI, along with any supplemental information, such as the approximate location, direction, and speed of movement.

Table 3-6.—PIREP Coded Text Element Indicators and Examples of Entries

TEI	MEANING	EXAMPLE	DECODED MESSAGE
/OV	OVer location	/OV KNGU	directly over KNGU
		/OV KNGU 120035	120° (magnetic) from KNGU at 35 nmi
/TM	TiMe (UTC)	/TM 1135	phenomena occured at 1135Z
/FL	Flight Level	/FL120	aircraft flying at 12,000 feet (MSL)
/TP	aircraft TyPe	/TP F16	reported by an F-16
		/TP C5	reported by a C-5
/SK	SKy cover	/SK SCT030-060	scattered cloud layer bases 3,000 ft, tops 6,000 ft (MSL)
		/SK OVC065-UNKN	in overcast layer, bases 6,500 ft (MSL), tops unknown
/WX	Weather	/WX FV02SM TSRA GR	FL visibility 02 statute miles, in thunderstorm with rain and hail
		/WX FV99SM	FL visibility unrestricted
/TA	Temperature (outside Air)	/TA 01	outside air temperature 1°C
		/TA M10	outside air temperature -10°C
/WV	Wind dir/spd	/WV 09060KT	wind from 090°(true) at 60 knots
/TB	TurBulence	/TB NEG BLO 080	forecast turbulence not present below 8,000 ft
		/TB MOD 120-180	turbulance moderate 12,000 to 18,000 ft
		/TB MOD-SEV CAT	clear air turbulence moderate to severe (at flight level)
/IC	ICing	/IC MOD RIME 035-075	moderate rime icing 3,500 to 7,500 ft
/RM	ReMark	/RM WATERSPOUT MOV ENE	waterspout sighted, moving east-northeast

Weather elements reported after the "/WX" TEI should conform to the METAR Surface Meteorological Observation code. No more than three weather groups should be reported in a single PIREP. Consult the latest NAVMETOCCOMINST 3142.1 for detailed descriptions and permissible entries for each TEI.

TRANSMITTING PIREPS

Nearly all PIREPs received should be encoded and disseminated both locally and via electronic circuits to central data collection centers, The only PIREPs not disseminated are as follows:

• When two or more PIREPS are received reporting essentially the same information for the same area, only the most recent is sent out.

• PIREPs are not disseminated locally if essentially the same information has been sent out in the past 30 minutes.

• A PIREP is not disseminated if it reports only sky conditions that have already been reported in a METAR or SPECI observation.

Normally, all PIREPs are prefixed with the message header UA. When sent out in a collective, which is several PIREPs sent out in a group, the UA header is included only as a group header, not on the individual reports.

Any PIREP reporting hazardous phenomena is considered an urgent PIREP and must be prefixed with the header UUA. Hazardous phenomena are defined as reported tornadoes, funnel clouds, waterspouts, hail, severe icing, severe or extreme turbulence (including CAT), low-level wind shear, or volcanic eruptions.

PIREPs are transmitted directly to central data collection centers via computer terminals exactly as coded on the observation record. PIREPs are disseminated locally via electrowriter, computer local-area-network (LAN), facsimile, or other appropriate means. A typical PIREP would be entered for transmission as follows:

UA/OV KNGUO90100/TM 2213/FL250/TP C5/SK BKN160-180 /WV 23057KT/TB LGT-MOD CAT 250-270/IC LGT RIME 160-180

An urgent PIREP may be entered with only limited data as follows:

UUA/OV PHNL270150/TM 0933/FL290/TP C9B/TB SEV CAT 310

RECORDS

A PIREP log, such as a two- or three-ring binder, should be maintained to keep all completed PIREP code forms. When transmitted, a printed copy of the transmitted message is normally attached to the PIREP code form. These records should be reviewed frequently by the observation supervisor for proper coding. Completed PIREP forms may be retained on board for as long as they may be of use, usually 1 year, and then destroyed.

REVIEW QUESTIONS

Q11. What is considered significant weather as it relates to PIREPS?

Q12. What does the acronym "CAT" indicate?

Q13. What instruction governs procedures for reporting and encoding PIREPS for Navy and Marine Corps activities?

Q14. What does the text element indicator "/TP" signify?

Q15. How would an overcast layer with a base of 12,000 feet and top of unknown height be encoded for a PIREP?

Q16. What does the PIREP entry /TB SEV CAT ABV 350 indicate?

Q17. When is the message type indicator "UUA" encoded?

SUMMARY

In this chapter, we have discussed in detail the TAP code and its importance to aviation safety. We also explained the procedures used to record and transmit PIREPS.

ANSWERS TO REVIEW QUESTIONS

A1. *NAVMETOCCOMINST 3143.1, Aerodrome Forecast (TAF) Code.*

A2. *TAFs are transmitted at 6-hour standard intervals at 0300. 0900, 1500, and 2100 UTC, and are valid for 24 hours.*

A3. *Cumulonimbus.*

A4. *Windshear conditions exist, but complete information cannot be reliably forecast.*

A5. *610604.*

A6. *Occasional moderate turbulence in clouds from 10,000 to 13,000 feet.*

A7. *The lowest altimeter setting in inches expected during the forecast period.*

A8. *The abbreviation "FM" is used to indicate the beginning of a change period in the forecast. Elements in this change group supersede all elements previously forecast.*

A9. *TEMPO.*

A10. *Wind speed change of IO knots or more, directional change of 30° or more (when the mean wind speed or gusts are in excess of 15 knots), or when wind speed or directional change results in a change of an active runway.*

A11. *Significant weather is any weather that may affect the flight performance of an air-craft. or is capable of causing injury or damage topersonnel property on the ground, such as from icing, LLWS, lightning. etc.*

A12. *Clear Air Turbulence.*

A13. *NAVMETOCCOMINST 3142.1, Procedures Governing Pilot Weather Reports (PIREPS).*

A14. *Aircraft type information follows.*

A15. */SK OVC120-UNKN.*

A16. *Severe clear air turbulence above 35,000 feet.*

A17. *The message type indicator "UUA" is used in the case of an urgent PIREP (hazardous weather encountered).*